



# Machine Learning Practice Outside Big Tech: How Resource Constraints Challenge Responsible Development



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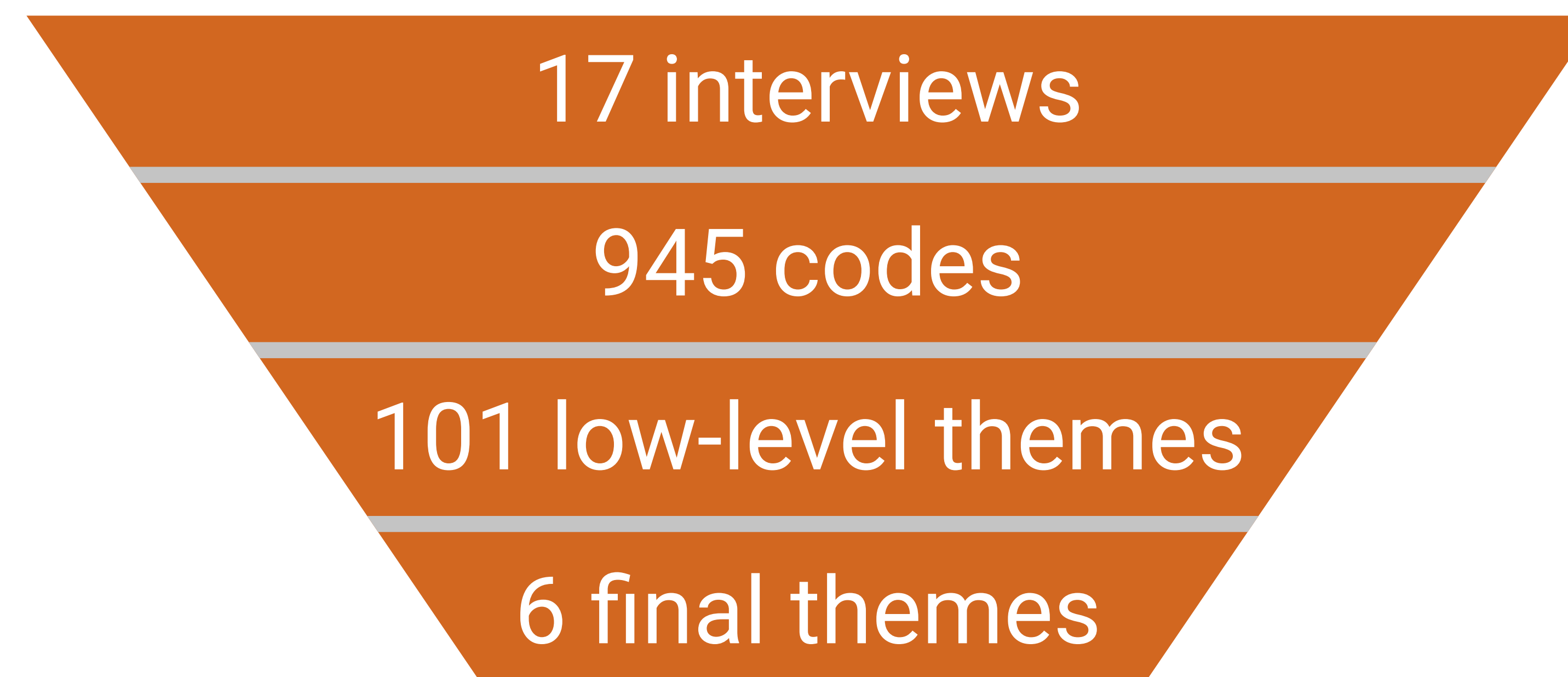
## The Big Questions

1. How well do past studies of ML practitioners apply outside Big tech?
2. How do development practices differ outside Big Tech?
3. How can we align ML research to also consider these practitioners' needs?

## Challenges

- Fewer resources
- Less AI/ML experience
- Difficulties Hiring
- Added pressure from increased existential risk [Svenja, Loch, and Dong 2009]

## Thematic Analysis



1. Expectations vs Feasibility

2. Black Boxes & Overconfidence

3. A Model is Never Finished

4. Assessing & Mitigating Bias

5. Communication & Collaboration

6. Privacy vs. Growth

## Interviewees

- CTOs, directors, investors, engineers, & analysts
- Shopping & recommendations, healthcare, pet care fitness, real estate, ML consulting, etc.

## Findings

- Big Tech puts up (inadvertant?) barriers to participation
- Small-scale ML development lacks tooling and best practices
- Many small companies defer responsibility: consequences of ML usage is pushed to users
- Privacy legislation (like GDPR) has not affected ML practice